

WESTCOAST DRILLING SUPPLIES LTD.
8069 River Way, Delta, British Columbia,
Canada V4G 1L3
Ph. (604) 940-6050 Fax (604) 940-6080

EMERGENCY 1-800-665-6645

SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **CLAY STABILIZER**
PRODUCT USE: Drilling System Additive
CHEMICAL FAMILY: Amine salts

WORK PLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

WHMIS CLASSIFICATION: D-2B
WORK PLACE HAZARD: Skin and Eye Irritant

TRANSPORTATION OF DANGEROUS GOODS (TDG)

TDG CLASSIFICATION: Not Regulated by TDG

SECTION II: HAZARDOUS INGREDIENTS

Ingredient	Percent	CAS Number	LD50 (Oral rat)	LC50 (Dermal rabbit)
Organic Amine	10-30	124-09-4	750 mg/kg	Not determined

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY:
[XXX] Eye Contact, [XXX] Inhalation, [XXX] Ingestion []

SKIN AND EYE CONTACT: Not expected to be problem under normal conditions of use. Liquid may cause minor irritation, burning on prolonged contact with skin. Due to the pH of the material it will irritate eyes on contact. LD50 (skin, rabbit) 3700 mg/kg based on components.

INHALATION: Not expected to be a problem under normal conditions of use.

INGESTION: LD50 (oral, rat) 3000mg/kg based on component concentrations

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: In case of skin contact, immediately flush contacted area for at least fifteen (15) minutes with water. Remove contaminated clothing immediately and launder before reuse. If irritation develops consult a doctor.

EYE CONTACT: In case of contact with eyes, flush with water for at least fifteen (15) minutes. Seek immediate medical attention.

INGESTION: If victim is conscious, give water. Do not induce vomiting. Seek immediate medical attention.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR:	Clear odorless liquid
SPECIFIC GRAVITY:	1.042
BOILING POINT:	>100° C
MELTING POINT:	<-35° C
SOLUBILITY IN WATER:	Soluble
PERCENT VOLATILE BY VOLUME:	Not applicable
EVAPORATION RATE:	Not applicable
VAPOR PRESSURE (mm Hg):	Not applicable
VAPOR DENSITY (Air=1):	Not applicable
pH:	9-10

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CLAY STABILIZER

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SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	>100° C (TCC)
FLAMMABLE LIMITS:	Not applicable
EXTINGUISHING MEDIA:	Water, dry chemical, foam.
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained respirators required for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None known
HAZARDOUS COMBUSTION PRODUCTS:	CO, CO ₂ , oxides of nitrogen

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []	
INCOMPATIBILITY (MATERIALS TO AVOID):	Strong oxidizing agents
HAZARDOUS DECOMPOSITION PRODUCTS:	CO, on combustion oxides of nitrogen.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur []

SECTION VIII: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	Suggest NIOSH/MESA approved dust mask
VENTILATION:	Ten (10) changes per hour suggested
PROTECTIVE GLOVES:	Suggest plastic or rubber
EYE PROTECTION:	Suggest goggles
OTHER PROTECTIVE EQUIPMENT (Specify):	Suggest rubber apron

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Store in cool, dry, well-ventilated place away from incompatible materials keep bags or fiber drums dry at all times. Wash thoroughly after handling. Do not get in eyes, on skin or on clothing.

Do not cut, grind, weld, or drill on or near this container. Containers, even those that have been emptied, will retain product residue, always obey hazard warnings and handled empty containers as if they were full.

STEPS TO BE TAKEN IN CASE MATERIAL IS SPILLED OR RELEASED:

Wear protective equipment. For small spills, sweep up and dispose of in DOT approved waste containers. For large spills, shovel into DOT approved waste containers. Keep out of sewers, storm drains, surface waters and soil.

WASTE DISPOSAL METHOD:

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate federal, state and local regulatory agencies to ascertain proper disposal procedures.

SECTION IX: PREPARATION

The information contained herein is given in good faith, but no warranty, expressed or implied, is made.

DATE ISSUED: July 18, 1997

PHONE: 403-279-8545

DATE REVISED: April 1, 2000

BY: Product Safety Committee

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **KOPR KOTE**
CHEMICAL FAMILY: Oil, Copper, Graphite and Lead
WHMIS CLASSIFICATION: Not available
WORK PLACE HAZARD: Not available

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not available
PACKAGE GROUP: Not available
PRODUCT IDENTIFICATION NUMBER (PIN): Not available

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	OSHA PEL	ACGIH TLLV
Petroleum Oil	70M	64742-57-0 or 64742-62-7	Oil Mist TWA - 5 mg/M ³	Not applicable
Lead Powder	15M	7439-92-1	Air - 200 ug/M ³	Air - 0.15 mg/M ³

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: (Information not available)
[] Skin, [] Eye Contact, [] Inhalation, [] Ingestion

SKIN CONTACT: Not available.
EYE CONTACT: Not available.
INHALATION: Not available.
INGESTION: Not available.
SYMPTOMS OF EXPOSURE: Redness and irritation of skin.
EFFECTS OF OVEREXPOSURE: Repeated skin contact for persons hypersensitive to petroleum products can cause redness and irritation of skin.

MEDICAL CONDITIONS POTENTIALLY AGGRAVATED BY EXPOSURE: Unknown
MATERIAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: National Toxicology Program - No, IARC - No, OSHA - No

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove by wiping, or waterless hand cleaner, followed by washing.
EYE CONTACT: Wash with copious quantities of water.
INHALATION: Clear air passages, call a physician.
INGESTION: **DO NOT** induce vomiting; call a physician.
OTHER INSTRUCTIONS: Not applicable

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Copper colored paste; petroleum odor.
DENSITY (SPECIFIC GRAVITY): 1.23
BOILING POINT: 441° C
MELTING POINT: Not applicable
WATER SOLUBILITY: None

**KOPR KOTE**

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% VOLATILE BY VOLUME:	None
EVAPORATION RATE:	< 0.01
VAPOR PRESSURE: (mm Hg)	< 0.01
VAPOR DENSITY: (Air = 1)	> 5.0
pH:	Not available
VISCOSITY:	Not available

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	294° C (COC Method)
FLAMMABLE LIMIT:	LEL = 0.9% UEL = 7%
AUTO-IGNITION TEMPERATURE:	> 315° C
EXTINGUISHING MEDIA:	Use foam, dry chemical, water spray (fog), carbon dioxide CO ₂ , or vaporizing liquid type extinguishing agents.
SPECIAL FIRE FIGHTING PROCEDURES:	Use supplied-air breathing equipment for enclosed or confined spaces.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing materials and copper reactive agents. Incompatible with 1-bromo-2-propyne, NH ₄ NO ₃ , CClF ₃ , H ₂ O ₂ , NaN ₃ , Na ₂ C ₂ , Zn.
HAZARDOUS DECOMPOSITION PRODUCTS:	Hydrogen, carbon monoxide, aldehydes, smoke, toxic fumes and toxic copper and lead compounds.
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur []

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	None required.
VENTILATION:	No special ventilation required.
PROTECTIVE GLOVES:	None required.
EYE PROTECTION:	None required.
OTHER PROTECTIVE EQUIPMENT:	Persons with hypersensitive skin should use gloves.
PERMISSIBLE CONCENTRATIONS:	Not available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Normal precautions as with any petroleum product. Wash hands before eating.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Scoop up excess, wipe with rags, pick up residue with diatomaceous earth to avoid walking hazard.

WASTE DISPOSAL METHOD:

Consult federal, provincial/state and local regulations for petroleum products.

SECTION IX: PREPARATION

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DATE ISSUED: May 25, 1991

DATE REVISED: April 1, 2000

BY: Product Safety Committee

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **LINSEED SOAP**
CHEMICAL FAMILY: Lubricating grease
WHMIS CLASSIFICATION: Not regulated
WORK PLACE HAZARD: Not applicable

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not available
PACKAGE GROUP: Not available
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable (Petroleum Lubricating Grease)

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
Linseed Soap	100%	Mixture		

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: (Information not available)
 [] Skin, [] Eye Contact, [XXX] Inhalation, [] Ingestion

SKIN CONTACT: Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis.
EYE CONTACT: Not available.
INHALATION: Inhalation of oil mist or vapors from hot grease may cause irritation of the upper respiratory tract. Long term intensive exposure may cause benign lung fibrosis.
INGESTION: Not available.
CHRONIC OVEREXPOSURE: Not determined.
IRRITATION INDEX: SKIN: Not available.
SYMPTOMS OF EXPOSURE: Not available.
EXPOSURE INFORMATION: Oil mist (particulate): 5 mg/M³ (TLV/TWA)
 ACGIH 88/89 10 mg/M³ (TLV/STEL) ACGIH 88/89

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Remove contaminated clothing. Wash contaminated skin with mild soap and water. Wipe excess from skin.
EYE CONTACT: Flush eyes with water for at least fifteen (15) minutes.
INHALATION: Remove victim from further exposure. Additional first aid treatment is not ordinarily required.
INGESTION: Do not induce vomiting. Obtain medical attention immediately.
OTHER INSTRUCTIONS: None

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: Semi-solid brown colored grease; slight hydrocarbon odor.
DENSITY (SPECIFIC GRAVITY): 1.0
BOILING POINT: 100° C
MELTING POINT: Not available
WATER SOLUBILITY: Miscible

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LINSEED SOAP

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% VOLATILE BY VOLUME:	Not available
EVAPORATION RATE:	Not available
VAPOR PRESSURE: (mm Hg)	Not available
VAPOR DENSITY: (Air = 1)	Not available
pH:	9.5
VISCOSITY:	Not available

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	222° C
FLAMMABLE LIMIT:	Not available
AUTO IGNITION TEMP:	343° C
EXTINGUISHING MEDIA:	Dry chemical, carbon dioxide CO ₂ , foam water fog.
SPECIAL FIRE FIGHTING PROCEDURES:	No special procedures - Avoid inhalation of smoke. Caution, spilled material is slippery. Use water to cool fire-exposed containers.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None currently known.

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Not available.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide; carbon dioxide and dense smoke are produced on combustion. Avoid excessive heat, formation of vapors or mists.
HAZARDOUS POLYMERIZATION:	Will not occur [] May occur [] Not Available

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	Under conditions of high heat use an air purifying respirator (mechanical filter with accompanying organic vapor cartridge).
VENTILATION:	Highly recommended for all indoor situations to control fugitive emissions. Concentrations in air should be maintained below the recommended threshold limit value if unprotected personnel are involved.
LOCAL: MAKE-UP AIR:	If oil mist is present or if exposure is exceeded. Should always be supplied to balance air exhausted (either generally or locally).
PROTECTIVE GLOVES:	Impervious gloves (viton, nitrile, PVC neoprene) should be worn at all times when handling this product.
EYE PROTECTION:	Chemical safety goggles and/or full face shield to protect eyes and face, if product is handled such that it could be splashed into eyes.
OTHER PROTECTIVE EQUIPMENT:	Impervious clothing (apron, coveralls) should be worn in confined workspaces or where the risk of skin exposure is much higher.
PERMISSIBLE CONCENTRATIONS:	Not available.

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LINSEED SOAP

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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Store in a cool, dry, well ventilated area, away from heat and ignition sources. Avoid excessive heat, formation of oil mist, breathing of vapors and mist of hot oil and prolonged or repeated contact with skin. Launder contaminated clothing prior to reuse. Properly dispose of contaminated leather articles, including shoes, that cannot be decontaminated.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Spilled material is slippery. Isolate hazard area and restrict access. Wear appropriate breathing apparatus (if applicable) and protective clothing. Stop leak only if safe to do so. Contain a land spill by diking. For large spills remove by mechanical means and place in containers. Clean area with appropriate cleaner. Do not allow product to run off from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. Provincial regulations require and federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities.

WASTE DISPOSAL METHOD:

Reclaim or dispose of at a licensed waste disposal company.

SECTION IX: PREPARATION

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DATE ISSUED: May 28, 1991

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BY: Product Safety Committee

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: LUBTUB

CHEMICAL FAMILY: Sodium polyacrylate

PRODUCT USE: Drilling fluid additive

WHMIS CLASSIFICATION: D2B

WORK PLACE HAZARD: Skin and eye irritant

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not dangerous goods

PACKAGE GROUP: Not applicable

PRODUCT IDENTIFICATION NUMBER (Pin): Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT'S	PERCENT(%)	CAS#	LD ₅₀ (oral rat)	LD ₅₀ (dermal rabbit)	LC ₅₀ (inhalation rat)
Sodium salt of polyacrylic	15-40	9003-04-7	not determined	not determined	not determined

SECTION III: HEALTH HAZARDS

ROUTE OF ENTRY	[XXX] Skin	[XXX] Eye Contact	[XXX] Inhalation	[XXX] Ingestion
THRESHOLD LIMIT VALUE	Not determined			
SKIN CONTACT	Prolonged contact may cause skin irritation or dermatitis in some individuals.			
EYE CONTACT	May cause watering of eyes and inflammation of conjunctiva			
INGESTION	May cause nausea and vomiting.			
INHALATION	If misted, may cause sneezing, slight irritation of nose and throat.			

SECTION IV: TOXICOLOGICAL INFORMATION

CARCINOGENICITY	not determined
REPRODUCTIVE TOXICITY	not determined
TERATOGENICITY	not determined
MUTAGENICITY	not determined
DEVELOPMENTAL TOXICITY	not determined

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LUBTUB

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SECTION V: FIRST AID MEASURES

SKIN CONTACT:	Wash exposed area with soap and water. If irritation or abnormalities persist, seek medical attention.
EYE CONTACT:	Immediately flush eyes with water for 15 minutes and seek medical attention. Contact lenses should not be worn when working with this material.
INGESTION:	If victim is conscious and alert induce vomiting by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Seek medical attention.
INHALATION:	Remove to fresh air, if not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

SECTION VI: PHYSICAL DATA

APPEARANCE	Clear to hazy light amber liquid
ODOR	Sweet odour
SPECIFIC GRAVITY	1.1
BOILING POINT (°C)	not determined
MELTING POINT (°C)	not determined
SOLUBILITY IN WATER	Miscible
PERCENT VOLATILE BY VOLUME	not determined
EVAPORATION RATE	not determined
VAPOR PRESURE (mm Hg)	not determined
VAPOR DENSITY (Air = 1)	not determined
pH	6 - 8

SECTION VII: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	>100 °C (TCC)
FLAMMABLE LIMITS	not determined
EXTINGUISHING MEDIA	CO ₂ , Foam, dry chemical, water spray
SPECIAL FIRE FIGHTING PROCEDURES	Use full protective equipment and self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS	Though the product is not flammable, evaporation of sufficient quantities of material could render the product combustible.

SECTION VIII: REACTIVITY DATA

STABILITY	[XXX] Stable	[] Unstable
INCOMPATIBILITY (Conditions to avoid)	Strong oxidizers	
CONDITIONS OF REACTIVITY	None known	
HAZARDOUS DECOMPOSITION PRODUCTS	CO _x and smoke on combustion	
HAZARDOUS POLYMERIZATION	[XXX] Will not occur	[] May occur

Material Safety Data / Fiche signalétique

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SECTION IX: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

Use NIOSH approved cartridge respirator when exposure is likely to be excessive.

VENTILATION

General mechanical

PROTECTIVE GLOVES

Chemically resistant

EYE PROTECTION

Safety glasses

OTHER PROTECTIVE EQUIPMENT (Specify)

None known

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

(Use appropriate safety equipment.) Small spills, soak up with absorbent material.

Large spills, dike to contain spill to prevent water pollution.

Recover diked material, return recovered material to plant.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion.

Practice reasonable caution and personal cleanliness.

Avoid skin and eye contact.

Store in a cool well ventilated area.

WASTE DISPOSAL METHOD

Absorb spilled material with absorbent compound, incinerated/dispose to conform with local disposal regulations.

SECTION X: PREPARATION

THE INFORMATION CONTAINED HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY, EXPRESSED OR IMPLIED IS MADE.

DATE ISSUED: November 10, 1990

SUPERSEDES: April 1997

BY: Product Safety Committee

DATE REVISED: April 1, 2000

DATE REVISED: January 2002

PRODUCT NAME:	PELADOW®
PRODUCT USE:	Oil Well Fluid Additive
CHEMICAL FAMILY:	Calcium Chloride (>90%)

WHMIS CLASSIFICATION: Class D 2(B)
WORK PLACE HAZARD: Skin and Eye Irritant

SHIPPING NAME:	Not Regulated Under TDG
TDG CLASSIFICATION:	Not applicable
PACKAGE GROUP:	Not applicable
PRODUCT IDENTIFICATION NUMBER (PIN):	Not applicable

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50 (oral rat)
Calcium Chloride	91 - 92%	10043-52-4	900-2100 mg / kg (100%)
Sodium Chloride	1 - 2%	7647-14-5	Not available
Potassium Chloride	2-3%	7447-40-7	Not available
Strontium Chloride	1%	10476-85-4	Not available

ROUTE OF ENTRY:
[XX] Skin, [XX] Eye Contact, [XX] Inhalation, [XX] Ingestion

EYE CONTACT:	Dusts may cause moderate to severe eye irritation, with corneal injury that may be slow to heal. When dissolving, the heat produced may cause more intense effects as well as thermal burns.
SKIN CONTACT:	Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. May cause more severe response if skin is damp and/or abraded, or if material is confined to skin. When dissolving, the heat produced may cause more intense effects as well as thermal burns. DOT classification: Noncorrosive.
SKIN ABSORPTION:	A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. The LD ₅₀ for skin absorption in rabbits is >5000 mg / kg.
INGESTION:	Single dose oral toxicity is low. Swallowing solids may cause gastro-intestinal irritation or ulceration.
INHALATION:	Vapours are unlikely due to physical properties. Dust may cause irritation of upper respiratory tract.

SKIN CONTACT: Immediately wash skin with lots of soap and water. Remove contaminated clothing and shoes; wash before reuses. Get medical attention if irritation persists after washing.

EYE CONTACT: *Get immediate medical attention.* Immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally.

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INGESTION: If conscious, immediately induce vomiting. *Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.*

INHALATION: remove to fresh air. Give artificial respiration if not breathing. *Get immediate medical attention.*

NOTE TO PHYSICIAN: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Supportive care. Treatment based on judgement of the physician in response to reactions of patient.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR:	White to off-white powder; odorless.
DENSITY (SPECIFIC GRAVITY):	2.2 g/cc
BOILING POINT:	198° C
MELTING POINT:	Approximately 230° C
WATER SOLUBILITY:	Soluble pH 7-10
% VOLATILE BY VOLUME:	Not applicable
EVAPORATION RATE:	Not applicable
VAPOR PRESSURE: (mm Hg)	0.009 mm Hg 20° C
VAPOR DENSITY: (Air = 1)	Not applicable

SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not applicable
FLAMMABLE LIMIT:	Not applicable
EXTINGUISHING MEDIA:	This material is not combustible
SPECIAL FIRE FIGHTING PROCEDURES:	Self-contained respirators required for fire-fighting personnel
UNUSUAL FIRE AND EXPLOSION HAZARDS:	None

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []

INCOMPATIBILITY (CONDITIONS TO AVOID): (Specific Materials to Avoid) Calcium Chloride will: corrode most metals exposed to air, attack aluminium (and its alloys) and yellow brass; react with sulphuric acid to form hydrogen chloride which is corrosive, irritating, and reactive; give an exothermic reaction with water reactive materials such as sodium; result in a runaway polymerization reaction with methyl vinyl ether (Bretherick, 1979); and, in solution form react with zinc (galvanizing) to yield hydrogen gas which is explosive (Ibid.). (Bretherick, L. 1979, Handbook of Reactive Chemical Hazards, 2nd Ed.)

HAZARDOUS DECOMPOSITION PRODUCTS: Not Applicable

HAZARDOUS POLYMERIZATION: Will not occur [XX] May occur []

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	Approved dust respirator mask
VENTILATION:	Local mechanical exhaust
PROTECTIVE GLOVES:	Rubber gloves.
EYE PROTECTION:	Chemical goggles.
OTHER PROTECTIVE EQUIPMENT:	An eyewash and safety shower should be nearby and ready for use.

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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid eye and prolonged skin contact. Always use cool water (temperature less than 27° C), when dissolving calcium chloride. Heat developed by solutions is very high during dissolving and mixing. When exposed to atmosphere, calcium chloride will pick up water and form a solution. Leather clothing and shoes will be damaged by calcium chloride.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Losses incidental to correct applications of this product in its intended uses are not expected to be harmful to the environment. Wear appropriate safety apparel during clean-up. Avoid entry of large amount of product into sewers, natural waters, and drinking water sources. Due to possible harmful effects. Avoid contact with vegetation, animals and fish life. Recover quickly into suitable, dry sealable containers if reusing. Small quantities may be flushed away with plenty of water. Walking surfaces may remain wet longer due to moisture being held by spilled product - avoid by thoroughly water washing surfaces.

WASTE DISPOSAL METHOD:

Dispose of contaminated product and materials used in cleaning up spills or leaks in a manner approved for this material. Consult appropriate regulatory agencies to ascertain proper disposal procedures

SECTION IX: PREPARATION

The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: December 15, 1994

DATE REVISED: April 1, 2000

BY: Product Safety Committee

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **550X POLYMER**
CHEMICAL FAMILY: Copolymer of Acrylamide and Sodium Acrylate
PRODUCT USE: Drilling Mud Additive
WHMIS CLASSIFICATION: Not a Controlled Product under WHMIS
WORK PLACE HAZARD: Not applicable

TRANSPORTATION OF DANGEROUS GOODS (TDGR)

CLASSIFICATION: Not applicable
PACKAGE GROUP: Not applicable
PRODUCT IDENTIFICATION NUMBER (PIN): Not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENTAGE	CAS NUMBER	LD50	LC50
No Hazardous Ingredients				

SECTION III: TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY:
[] Skin, [] Eye Contact, [XXX] Inhalation, [] Ingestion

SKIN CONTACT: Prolonged contact may cause skin irritation or dermatitis in some individuals.
EYE CONTACT: May cause irritation.
INHALATION: May cause sneezing, slight irritation of nose and throat.
INGESTION: Not available
EFFECTS OF ACUTE EXPOSURE: Not available
EFFECTS OF CHRONIC EXPOSURE: Not available

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: Wash exposed area with soap and water. If irritation or abnormalities persist, call a physician.
EYE CONTACT: Immediately flush eyes with water for fifteen (15) minutes and call a physician.
INHALATION: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
INGESTION: Do not induce vomiting. If conscious, dilute by giving two glasses of water. Call a physician immediately.

SECTION V: PHYSICAL DATA

APPEARANCE AND ODOR: White granular solid; faint odor
DENSITY (SPECIFIC GRAVITY): 0.80
BOILING POINT: Decomposes
MELTING POINT: Not applicable
WATER SOLUBILITY: Soluble
% VOLATILE BY VOLUME: Not applicable
EVAPORATION RATE: Not applicable
VAPOR PRESSURE (mm Hg): Very low
VAPOR DENSITY (Air = 1): Not applicable

**550X POLYMER**

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SECTION VI: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:	Not applicable
FLAMMABLE LIMIT:	Not applicable
EXTINGUISHING MEDIA:	Dry chemical, foam, CO ₂
SPECIAL FIRE FIGHTING PROCEDURES:	Use self-contained respirators for fire fighting personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Oxides of carbon and nitrogen and products of incomplete combustion.

SECTION VII: REACTIVITY DATA

STABLE [XXX] INSTABLE []	
INCOMPATIBILITY (CONDITIONS TO AVOID):	Strong oxidizing agents and caustic solutions.
HAZARDOUS DECOMPOSITION PRODUCTS:	Not applicable
HAZARDOUS POLYMERIZATION:	Will not occur [XXX] May occur []

SECTION VIII: PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:	Suggest NIOSH/MESA approved dust mask.
VENTILATION:	Ten (10) changes per hour suggested.
PROTECTIVE GLOVES:	Suggest plastic or rubber.
EYE PROTECTION:	Suggest goggles.
OTHER PROTECTIVE EQUIPMENT:	Suggest rubber apron.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Avoid prolonged or frequent contact when handling material. Do not inhale dust or breathe vapor. Keep container closed when not in use. Store in a cool and dry location away from oxidizing and reducing agents.

STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:

Ventilate area. Wear rubber boots, gloves and a self contained breathing apparatus if ventilation is not adequate. Collect into a waste container. Avoid raising dust. Wash spill site after material pick-up. Water solutions are very slippery. May constitute a hazard following a spill.

WASTE DISPOSAL METHOD:

Dispose of waste according to federal, provincial and local regulations.

SECTION IX: PREPARATION

The information contained herein is given in good faith, but no warranty, expressed or implied is made.

DATE ISSUED: January 1, 1991

DATE REVISED: April 1, 2000

BY: Product Safety Committees



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550X POLYMER

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AMENDMENT HAZARDOUS INGREDIENTS (550X)

Material or component	WT% Hazard data
COPOLYACRYLAMIDE/SODIUM ACRYLATE	Not considered hazardous

ENVIRONMENTAL

DEGRADABILITY/AQUATIC TOXICITY:	Not determined
OCTANOL/WATER PARTITION COEFFICIENT:	Not determined
WASTE DISPOSAL METHODS:	Incineration and/or disposal in Chemical Landfill, Disposer must comply with federal, provincial and local disposal or discharge laws.
RCRA STATUS OF UNUSED MATERIAL IF DISCARDED:	Not a "Hazardous Waste".
HAZARDOUS WASTE NUMBER:	Not available
REPORTABLE QUANTITY:	EPA 40 CFR (CERCLA 102): Not applicable
THRESHOLD PLANNING QUANTITY:	EPA 40 CFR 355 (SERA 301-304): Not applicable
TOXIC CHEMICAL RELEASE REPORTING:	EPA 40 CFR 372 (SERA 311-313): Not applicable
EPA HAZARD CLASSIFICATION CODE:	ACUTE - YES FIRE - NO CHRONIC - NO PRESSURE - NO REACTIVE - NO
HMIS AND NFPA RATINGS:	HMIS HEALTH FLAMMABILITY REACTIVITY SPECIAL
	1 0 1 Not applicable
	NFPA 1 0 1 Not applicable

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SECTION I: IDENTIFICATION OF PRODUCT

PRODUCT NAME: **WDS-120L**

PRODUCT USE: Drilling Mud Additives

CHEMICAL FAMILY: Copolymer of acrylamide with sodium acrylate

WHMIS CLASSIFICATION: B3, D2B

WORK PLACE HAZARD: Combustible liquid, skin and eye irritant

TRANSPORTATION OF DANGEROUS GOODS

SHIPPING NAME: not regulated

CLASSIFICATION: not applicable

PACKAGE GROUP: not applicable

PRODUCT IDENTIFICATION NUMBER (Pin): not applicable

SECTION II: HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT %	CAS NUMBER	LD ₅₀ (oral rat)	LD ₅₀ (dermal rabbit)	LC ₅₀ (inhalator rat)
Mineral Spirits	30-60	64742-47-8	>5 g/kg	>3 g/kg	not determined
Alkyl Phenol Ethoxylate	3-7	68412-54-4	3000 mg/kg	2830 mg/kg	not determined

SECTION III: TOXICOLOGICAL INFORMATION

CARCINOGENICITY: not determined

REPRODUCTIVE TOXICITY: not determined

TERATOGENICITY: not determined

MUTAGENICITY: not determined

DEVELOPMENTAL TOXICITY: not determined

SECTION IV: HEALTH HAZARDS

ROUTE OF ENTRY: [XXX] Skin [XXX] Eye Contact [XXX] Inhalation [XXX] Ingestion

THRESHOLD LIMIT VALUE: not determined

SKIN CONTACT: Contact may cause irritation, redness, swelling or dermatitis

EYE CONTACT: Will cause painful burning or stinging of eyes and lids, watering of eyes and inflammation of conjunctiva.

INGESTION: May cause nausea and vomiting

INHALATION: Inhalation not likely.

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WDS-120L

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SECTION V: FIRST AID MEASURES

SKIN CONTACT

: Wash exposed area with soap and water.
If irritation or abnormalities persist, call a physician.

EYE CONTACT INGESTION

: Immediately flush eyes with water for 15 minutes and call a physician.
Do not induce vomiting.
If conscious, dilute by giving two glasses of water.
Call a physician immediately.

INHALATION

: Remove to fresh air.
If conscious, dilute by giving two glasses of water.
Call a physician immediately.

SECTION VI: PHYSICAL DATA

APPEARANCE

Off white liquid

ODOUR

Mineral oil smell

SPECIFIC GRAVITY

1.07

BOILING POINT (°C)

not determined

MELTING POINT (°C)

not determined

SOLUBILITY IN WATER

Soluble

PERCENT VOLATILE BY VOLUME

not determined

EVAPORATION RATE

not determined

VAPOR PRESSURE (mm Hg)

not determined

VAPOR DENSITY (Air = 1)

not determined

pH

6 - 9 (0.6% in water)

SECTION VII: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT

65°C (TCC)

FLAMMABLE LIMITS

not determined

EXTINGUISHING MEDIA

Water spray, foam, dry chemical, carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES

Self-contained respirators required for fire fighting personnel.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Water will cause extreme slipperiness.

Sensitivity to static charge.

WDS-120L

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SECTION VIII: REACTIVITY DATA

STABILITY:	<input checked="" type="checkbox"/> Stable	<input type="checkbox"/> Unstable
INCOMPATIBILITY (Conditions to Avoid)	Strong oxidizing and reducing agents.	
CONDITIONS OF REACTIVITY	Not known	
HAZARDOUS DECOMPOSITION PRODUCTS	CO _x , smoke on combustion	
HAZARDOUS POLYMERIZATION	<input checked="" type="checkbox"/> Will not occur	<input type="checkbox"/> Will occur

SECTION IX: PREVENTIVE MEASURES

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	In the absence of proper ventilation a NIOSH approved organic vapour respirator is recommended
VENTILATION	General mechanical, 10 changes per hour
PROTECTIVE GLOVES	Chemically resistant
EYE PROTECTION	Safety glasses
OTHER PROTECTIVE EQUIPMENT (Specify)	None known

STEPS TO BE TAKEN IN CASE THE MATERIAL IS SPILLED OR RELEASED

(Use appropriate safety equipment.) Small spills, soak up with absorbent material
Large spills, dike to contain spill to prevent water pollution.
Recover diked material, return recovered material to plant.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Avoid ingestion.
Practice reasonable caution and personal cleanliness.
Avoid skin and eye contact.
Store in a cool well ventilated area.

WASTE DISPOSAL METHOD

Absorb spilled material with absorbent compound, incinerate/dispose to conform with local disposal regulations.

SECTION X: PREPARATION

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DATE ISSUED: July 2001
SUPERSEDES: January 1995
BY: Product Safety Committee

DATE REVISED: April 1, 2000
DATE REVISED: January 2002